



$$\Sigma F_{||} = 0$$

$$F_{T2} = F_{g2}$$

2 ropes, so  $\frac{1}{2} F_T = F_{T1} \Rightarrow F_T = 2 F_{T1}$

$$F_T - F_{g1||} = 0$$

$$2 F_{T1} = F_{g1||}$$

$$\Sigma \tau = 0$$

$$r_1 F_{T1} - r_2 F_{T2} = 0$$

$$F_{T1} = \frac{1}{2} F_{g1||} \quad r_1 \left( \frac{1}{2} \right) F_{g1||} - 3r F_{g2} = 0$$

$$\left( \frac{1}{2} \right) m_1 g \sin(45^\circ) = 3 m_2 g$$

$$m_2 = \frac{m_1}{6} \sin(45^\circ)$$

$$= 177 \text{ kg}$$